

## ABSTRACT OF THE INVENTION

5           A graphics system and method for increasing efficiency of decompressing blocks  
of compressed geometry data and reducing redundant transformation and lighting  
calculations is disclosed. Multiple decompression pipelines are used to increase the  
decompression speed. A control unit receives blocks of compressed geometry data  
information and selectively routes them to a plurality of decompression pipelines. Each  
10 decompression pipeline is configured to decompress the blocks into a set of vertices. The  
reduction in redundant calculations is accomplished by delaying the formation of  
geometric primitives until after transformation and lighting has been performed on the  
vertices. Transformation and/or lighting are performed independently on a vertex-by-  
vertex basis without reference to which geometric primitives the vertices belong to. After  
15 transformation and or lighting, geometric primitives may be formed utilizing previously  
generated connectivity information. The connectivity information may include mesh  
buffer references, vertex tags, or other types of information.

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